



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
Gloria L. McCutcheon, Regional Director

Southeast Region Annex
4041 N. Richards Street, Box 12436
Milwaukee, Wisconsin 53212-0436
TELEPHONE 414-229-0800
FAX 414-229-0810

October 23, 1998

Harlan Clinkenbeard
Town of Pewaukee
W240 N3065 Pewaukee Rd
Pewaukee, WI 53072

SUBJECT: Case closure, Town of Pewaukee Municipal Garage, W240 N3065 Pewaukee Rd., file reference FID #268021490 ERR-LUST

Dear Mr. Clinkenbeard:

I have reviewed your case file based on documents submitted by Cooper Environmental & Engineering Resources, Inc. Based on this information I agree with Cooper in that no further work is needed. The department reserves the right to reopen this case pursuant to s. NR726.09, Wisconsin Administrative Code (WAC), should additional information regarding site conditions indicate contamination on or from the site poses a threat to public health, safety or welfare or the environment.

To complete the closure of this site, you must place a groundwater use restriction on the property deed at the county register of deeds office which specifies the legal description of the property, the location, type, and concentration of the contaminants and includes the following language:

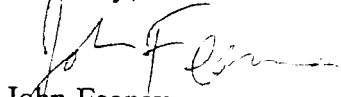
Natural attenuation has been approved by the Department of Natural Resources to remediate groundwater exceeding ch. NR 140 groundwater standards within the boundaries of this property. Construction of wells where water quality exceeds the drinking water standards in ch. NR809 is restricted by chs. NR811 and NR812. Special well construction standards or water treatment requirements, or both, or well construction prohibitions may apply. Anyone who proposes to construct or reconstruct a well on this property is required to contact the Department of Natural Resources' Bureau of Drinking Water and Groundwater to determine what specific requirements are applicable prior to constructing or reconstructing a well on this property.

Within 60 days all of the groundwater monitoring wells at the site must be abandoned in accordance with WAC NR 141 and the completed abandonment forms must be submitted to the department. Once the department receives the abandonment forms, this case will be tracked as closed on our computer tracking system.

If residual contaminated soils are excavated at the site for construction or other purposes, they must be handled in accordance with Wisconsin Administrative Code NR718.

If you have any questions about this letter, call me at 414-229-0850.

Sincerely,

A handwritten signature in dark ink, appearing to read "John Feeney", written over the printed name.

John Feeney
Hydrogeologist

cc: Cooper
SER File

2403110

Document No.

2403110

Groundwater Use Restriction

Document Title

GROUNDWATER USE RESTRICTION

WHEREAS, the Town of Pewaukee ("Owner") hereby imposes the following restrictions on Owners' property which is described by the northeast 1/4 of Section 15, Township 7 North, Range 19 East, Waukesha County ("Property"). Specifically, the Property is located at W240 N3065 Pewaukee Road, Pewaukee, Wisconsin. The Property is identified by the key number PWT 0921 999 001.

Recording Area

Name and Return Address

Mr Brent J. Redford
Town of Pewaukee
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072

Parcel Identification Number (PIN)

WHEREAS, one or more petroleum product discharges have occurred at this Property. The groundwater on the Property has been found to be contaminated with petroleum volatile organic compounds (PVOC) in excess of the NR 140 groundwater enforcement standard (ES) for benzene at monitoring well, MW03R, illustrated on Exhibit A. The benzene concentration at monitoring well MW03R is 190 µg/l.

WHEREAS, it is the desire and intention of the Property owners to impose on the Property restrictions which will make it unnecessary to conduct additional soil or groundwater remediation activities on the Property at the present time.

WHEREAS, natural attenuation has been approved by the Department of Natural Resources to remediate groundwater exceeding ch. NR 140 groundwater standards within the boundaries of this Property.

WHEREAS, construction of wells where the water quality exceeds the drinking water standards in ch. NR 809 is restricted by ch. NR 811 and ch. NR 812. Special well construction standards or water treatment requirements, or both, or well construction prohibitions may apply.

NOW THEREFORE, the owner hereby declares that the Property described above is held and shall be held, conveyed or encumbered, leased, rented, used, occupied and improved subject to the following limitation and restrictions:

Anyone who imposes to construct or reconstruct a well on this Property is required to contact the Department of Natural Resources' Bureau of Drinking Water and Groundwater, or its successor agency, to determine what specific requirements are applicable prior to constructing or reconstructing a well on this Property. No well may be constructed or reconstructed on this property unless applicable requirements are met.

IN WITNESS WHEREOF, the owner has executed this Declaration of Restrictions, this 22 day of December, 1998.

Redford

By signing this document, Mr. Brent J. ~~Maywell~~ acknowledges that he is duly authorized to sign this document on behalf of the Town of Pewaukee.

Mr Brent J. Redford
Town Board Chairman

Subscribed and Sworn to before me
this 22 day of December, 1998.

Notary Public, Wisconsin

My Commission: 7-15-01

Drafted by:

Mr. Christian A. Mielke, P.E.
Cooper Environmental and Engineering Resources, Inc.
1141 North Main Street
West Bend, Wisconsin 53090

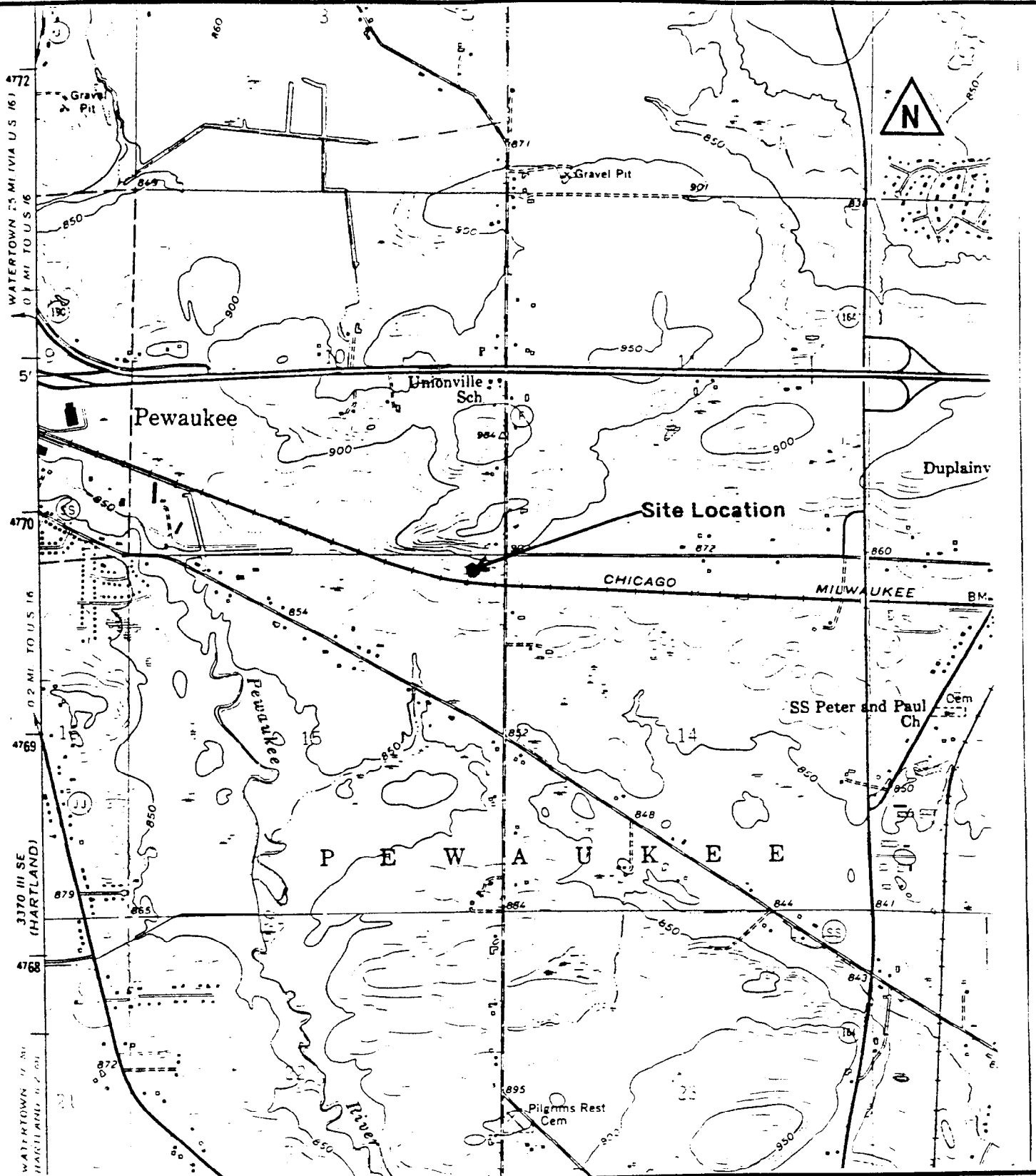


Figure 1
SITE LOCATION

Town of Pewaukee
W 240 N 3065 Pewaukee Road
Pewaukee, WI



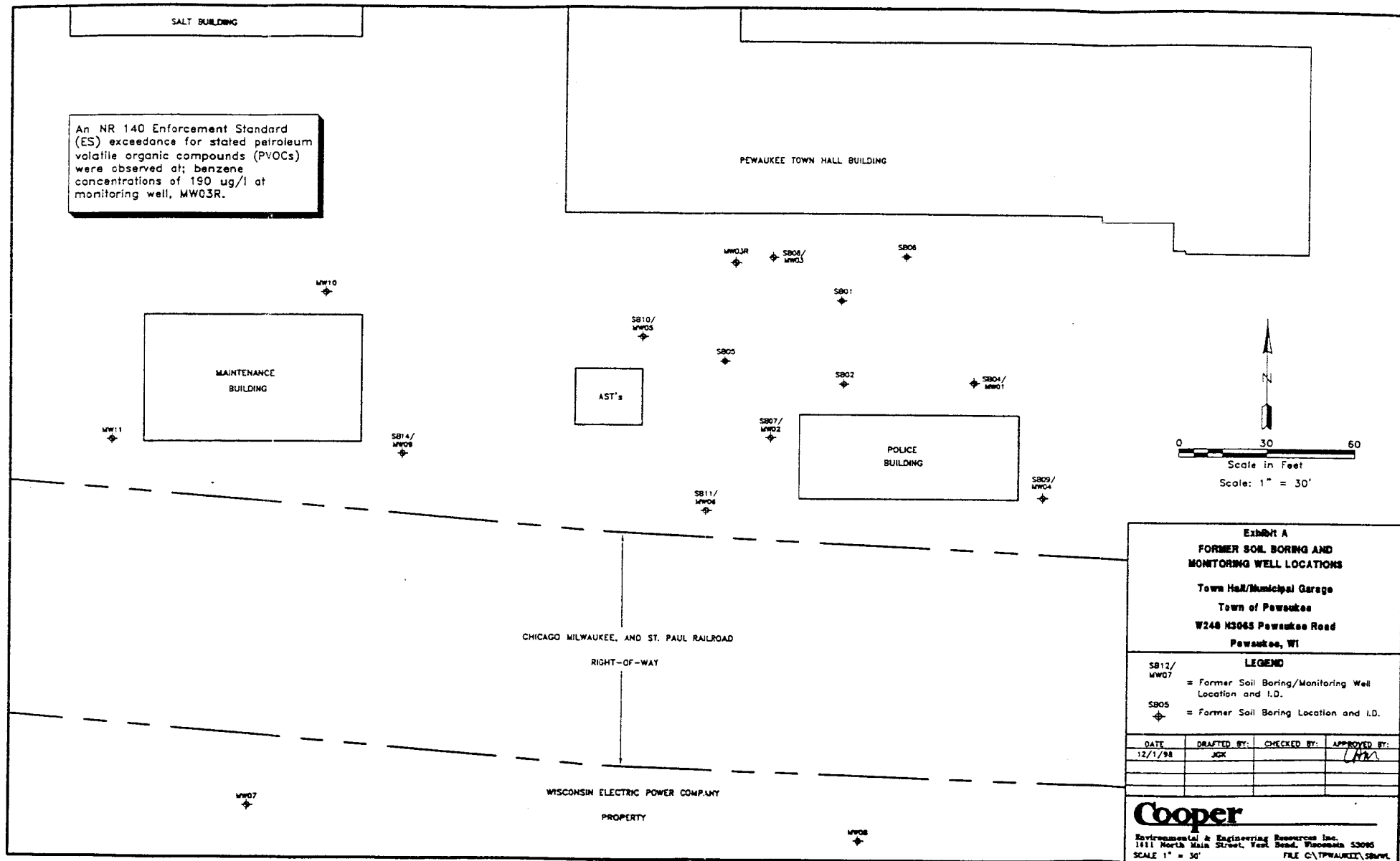
QUADRANGLE LOCATION

source: USGS 7.5' Quadrangle: (Waukesha, WI: 1971)

date:	drafted by:	checked by:	approved by:
9-26-85	PDE	ADW	AWK

Cooper

Environmental & Engineering Resources Inc.
1411 North Main Street, West Bend, Wisconsin, 53095
scale: 1 : 24,000



An NR 140 Enforcement Standard (ES) exceedance for stated petroleum volatile organic compounds (PVOCs) were observed at benzene concentrations of 190 ug/l at monitoring well, MW03R.

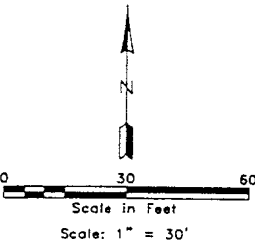


EXHIBIT A
FORMER SOIL BORING AND MONITORING WELL LOCATIONS
 Town Hall/Municipal Garage
 Town of Pewaukee
 W248 N3065 Pewaukee Road
 Pewaukee, WI

LEGEND
 SB12/
 MW07 = Former Soil Boring/Monitoring Well Location and I.D.
 SB05 = Former Soil Boring Location and I.D.

DATE	DRAFTED BY:	CHECKED BY:	APPROVED BY:
12/1/98	JCK		<i>[Signature]</i>

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 Environmental & Engineering Resources Inc.
 1811 North Main Street, West Bend, Wisconsin 53090
 SCALE 1" = 30' FILE C:\TPWAUKEE\SBMWL

FILE 2810M0769

SALT BUILDING

WATER SUPPLY WELL

PEWAUKEE TOWN HALL BUILDING

MAINTENANCE BUILDING

AST's

POLICE BUILDING

EXTENT OF SOIL OVEREXCAVATION

CHICAGO MILWAUKEE, AND ST. PAUL RAILROAD

RIGHT-OF-WAY

WISCONSIN ELECTRIC POWER COMPANY

PROPERTY

Figure 2

PRIVATE WATER SUPPLY WELL, SOIL BORING AND MONITORING WELL LOCATIONS

Town Hall/Municipal Garage
Town of Pewaukee
W240 N3065 Pewaukee Road
Pewaukee, WI

LEGEND

- SB12/
MW07
⊕ = Soil Boring/Monitoring Well Location and I.D.
- SB05
⊕ = Soil Boring Location and I.D.
- = Water Supply Well Location

DATE	DRAFTED BY:	CHECKED BY:	APPROVED BY:
12/23/99	clm		clm

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Environmental & Engineering Resources Inc.
1411 North Main Street, West Bend, Wisconsin 53095
SCALE 1" = 30' FILE C:\TPWAUKEE\SDILEXC

MW03

MW08

MW07

SB11/
MW06

SB07/
MW02

SB05

SB10/
MW05

SB14/
MW09

MW10

MW11

MW03R

SB08/
MW03
(abandoned)

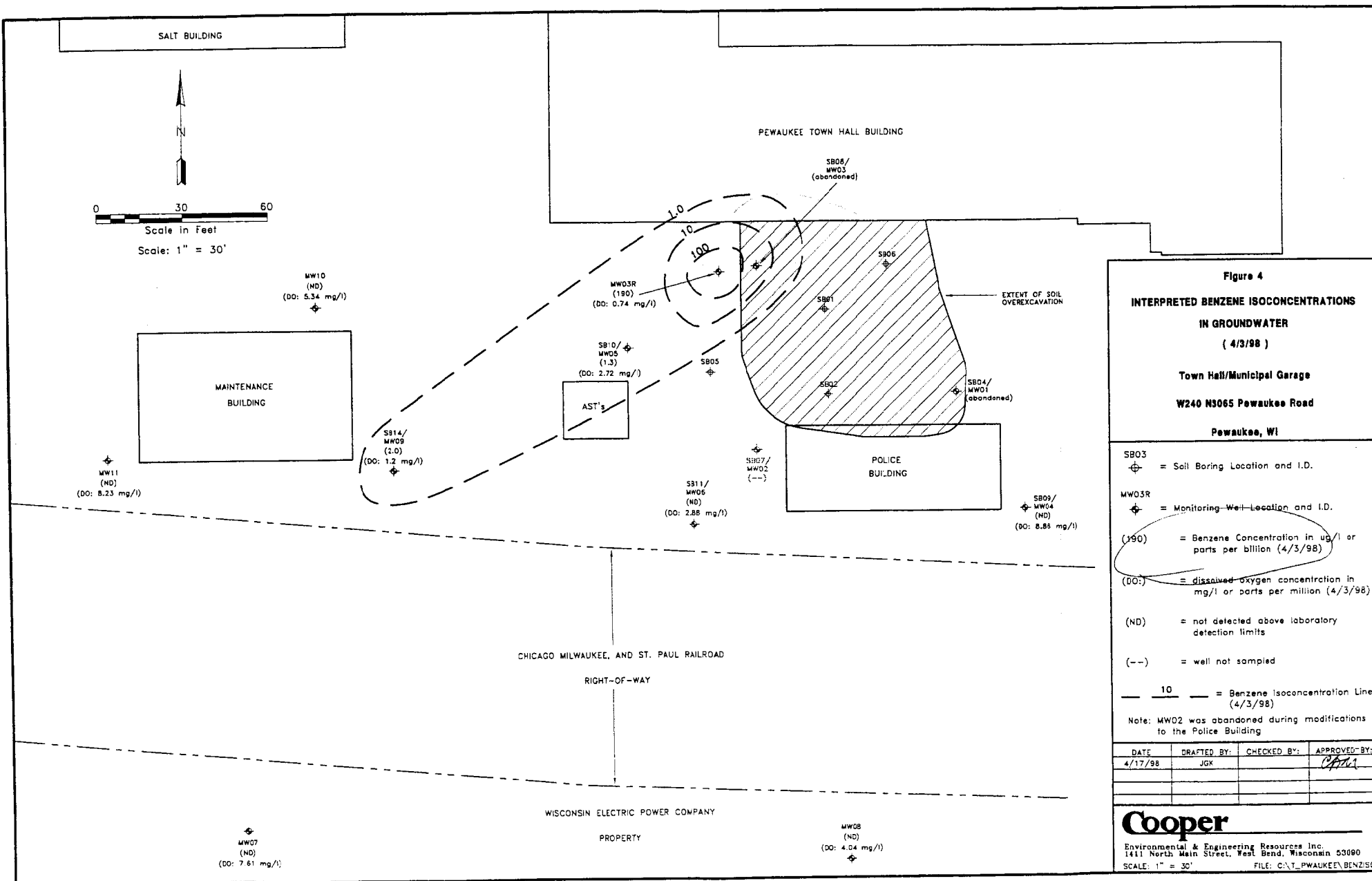
SB06

SB01

SB02

SB04/
MW01
(abandoned)

SB09/
MW04



SALT BUILDING

PEWAUKEE TOWN HALL BUILDING

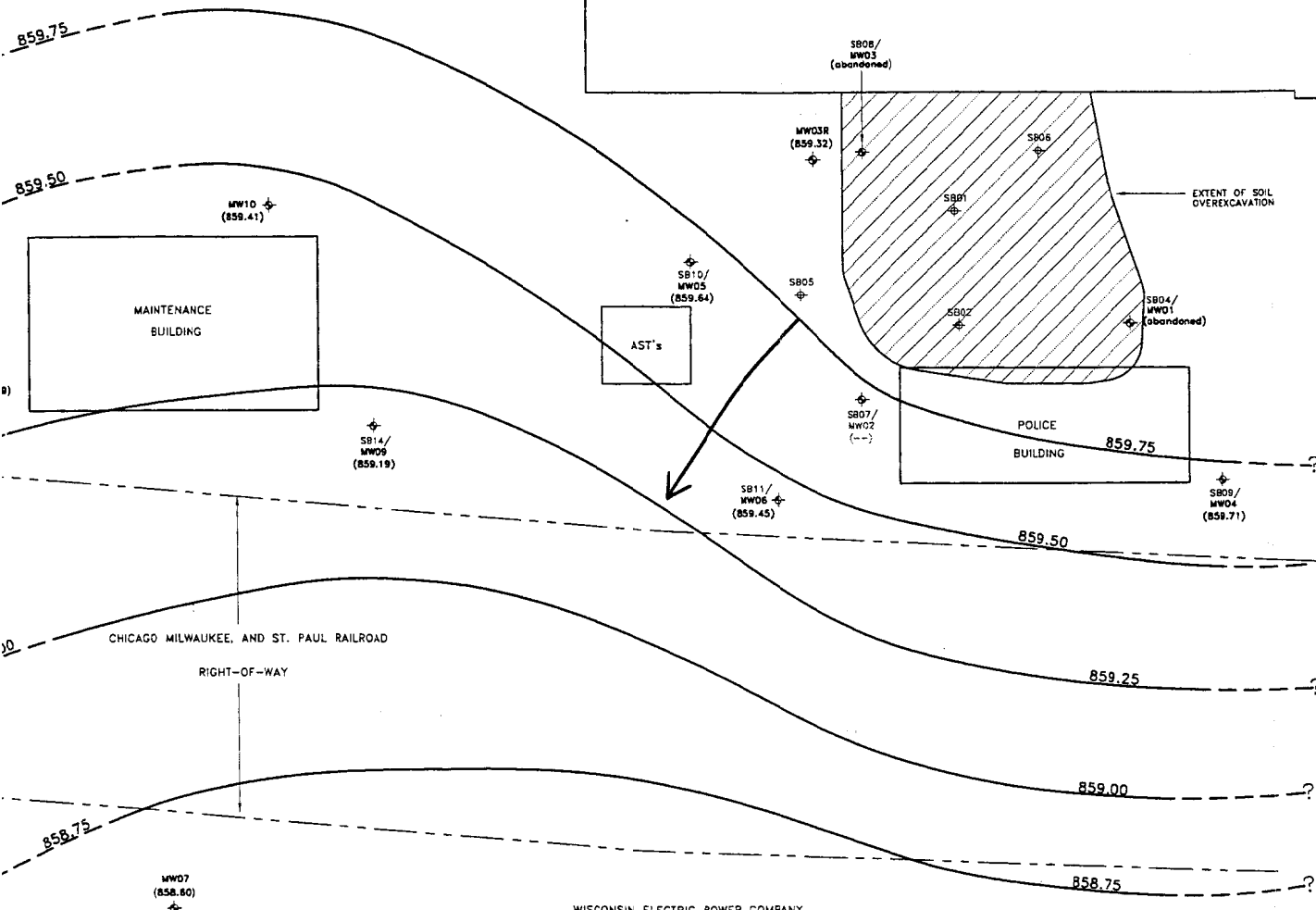
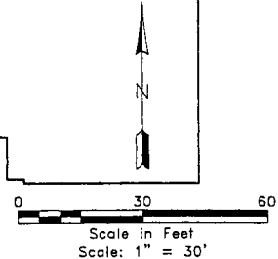


Figure 3

INTERPRETED SHALLOW GROUNDWATER

FLOW DIRECTION

(4/3/98)

Town Hall/Municipal Garage

W240 N3065 Pewaukee Road

Pewaukee, WI

SB03
⊕ = Soil Boring Location and I.D.

SB10/
MW05
⊕ = Soil Boring/Monitoring Well
Location and I.D.

(859.75) = static water elevation (4/3/98)

➔ = interpreted shallow groundwater
flow direction (4/3/98)

? — 859.75 = interpreted shallow groundwater
contour line, dashed and
question marked where inferred.
contour interval = .25 foot

Notes:

1. Groundwater elevation at MW03R was not used to determine groundwater flow direction because the water table in this vicinity is being influenced by the excavation area.
2. MW02 was abandoned during modifications to Police Building

DATE	DRAFTED BY:	CHECKED BY:	APPROVED BY:
4/17/98	JGK		<i>CHM</i>

Cooper

Environmental & Engineering Resources Inc.
1411 North Main Street, West Bend, Wisconsin 53090

WISCONSIN ELECTRIC POWER COMPANY

PROPERTY

MW08

Table 2
Groundwater Contaminant Analytical Results - Detected Compounds Only
Town of Pewaukee
Pewaukee, Wisconsin

Well Number	Date Sampled	Sample ID	Benzene	Ethylbenzene	Toluene	Total Xylenes	Naphthalene	MTBE
MW01	01/20/93	TP/MW01-01	8	87	108	744	102	ND(<1)
	03/05/93	TP/MW01-02	ND(<1)	2.89	19.1	34.53	29.6	ND(<1)
	05/03/93	NS						
	Removed/abandoned during excavation activities in September 1993							
MW02	01/20/93	TP/MW02-01 [D]	185 [169]	780 [946]	1,047 [1,201]	3,971 [4,640]	411 [505]	ND(<2) [ND(<2)]
	03/05/93	TP/MW02-02 [D]	48.4 [52.2 MI]	489 [516]	665 [745]	2,303 [2,537]	239 [253]	ND(<1) [ND(<1)]
	05/03/93	NS						
	Abandoned during construction of Police Building							
MW03	01/20/93	TP/MW03-01	2.62	4.78	46.1	26.8	18	ND(<2)
	03/05/93	TP/MW03-01	ND(<1)	26.9	64.7	272	58.7	ND(<1)
	05/03/93	NS						
	Removed/abandoned during excavation activities in September 1993							
MW03R	01/20/93	NI						
	03/05/93	NI						
	05/03/93	NI						
	03/17/94	TP/MW03R-A	ND(<1)	7.2	6	14	4.5	ND(<1)
	06/21/96	TP/MW03R-6/96 [D]	74 [74]	5.3 [5.2]	4.4 [4.5]	7.9 [8.3]	1.9 [1.5]	ND(<1) [ND(<1)]
	03/06/97	TP/MW03R-3/97 [D]	120 [120]	17 [16]	2.5 [2.3]	11.6 [11.3]	-- --	0.6 Q [0.4 Q]
	06/13/97	TP/MW03R-6/97 [D]	93 [93]	2.3 [2.5]	ND(<0.28) [0.36]	ND [ND]	-- --	1.3 [1.2]
	10/03/97	Dry Well						
	01/05/98	NS - 5" of water in the well						
MW04	04/03/98	TP/MW03R-4/98 [D]	190 [190]	13 [14]	3.6 [4.1]	10.5 [11.6]	--	0.91 [1.0 Q]
	01/20/93	NI						
	03/05/93	TP/MW04-01	ND(<1)	12.3	29.7	47.2	20.8	ND(<1)
	05/03/93	NS						
	03/17/94	TP/MW04-A	ND(<1)	1.4	ND(<1)	3	ND(<1)	ND(<1)
	06/21/96	TP/MW04-6/96	ND(<0.6)	ND(<1)	ND(<1)	ND	ND(<1)	ND(<1)
	03/06/97	TP/MW04-3/97	ND(<0.2)	5.9	ND(<0.4)	7	--	0.9
	06/13/97	TP/MW04-6/97	ND(<0.41)	3.4	0.29	1.76	--	ND(<0.53)
	10/03/97	TP/MW04-10/97	ND(<0.16)	1.1	ND(<0.36)	2.02	--	0.46
NR 140	01/05/98	NS - 6" of water in the well						
	04/03/98	TP/MW04-4/98	ND(<0.26)	ND(<0.24)	ND(<0.21)	ND	--	ND(<0.22)
ES			5	700	343	620	40	60
PAL			0.5	140	68.6	124	8	12

Notes: all concentrations reported in ug/L unless noted
MI = Matrix interference
[D] = Analytical results of duplicate in brackets
ND() = Not detected above detection limit (detection limit)
NS = Not sampled
NI = Not Installed
NA = No standard
-- = Not analyzed for parameter
Q = Estimated value; concentration between LOQ and LOD
ES = NR 140 Enforcement Standard
PAL = NR 140 Preventive Action Limit
185 = Enforcement Standard Exceedence
272 = Preventive Action Limit Exceedence
MW03R was installed approximately 10' west of MW03's previous location

Table 2, continued
Groundwater Contaminant Analytical Results - Detected Compounds Only
Town of Pewaukee
Pewaukee, Wisconsin

Well Number	Date Sampled	Sample ID	Benzene	Ethylbenzene	Toluene	Total Xylenes	Naphthalene	MTBE
MW05	01/20/93	NI						
	03/05/93	TP/MW05-01	191	810	738	2,178	449	ND(<1)
	05/03/93	NS						
	03/17/94	TP/MW05-A	110	360	270	1,060	140	ND(<10)
	06/21/96	TP/MW05-6/96	ND(<0.6)	ND(<1)	ND(<1)	8.2	1.4	ND(<1)
	03/06/97	TP/MW05-3/97	8.3	97	7.6	139	--	1.1 Q
	06/13/97	TP/MW05-6/97	6.6	48	1.9	58.5	--	ND(<1.1)
	10/03/97	TP/MW05-10/97	5.9	46	2.6	48.9	--	9
	01/05/98	NS - 5" of water in the well						
	04/03/98	TP/MW05-4/98	1.3	22	2.5	50.3	--	0.38 Q
MW06	01/20/93	NI						
	03/05/93	TP/MW06-01	31.8 MI	610	200 MI	1,944	388	ND(<1)
	05/03/93	NS						
	03/17/94	TP/MW06-A	ND(<5)	14	7.4	143	27	ND(<5)
	06/21/96	TP/MW06-6/96	ND(<0.6)	ND(<1)	ND(<1)	ND	ND(<1)	ND(<1)
	03/06/97	TP/MW06-3/97	ND(<0.2)	1.2	ND(<0.4)	1.1 Q	--	0.2 Q
	06/13/97	TP/MW06-6/97	ND(<0.41)	7.8	ND(<0.28)	8	--	ND(<0.53)
	10/03/97	TP/MW06-10/97	ND(<0.16)	2.9	0.59	2.66	--	2.8
	01/05/98	NS - 6" of water in the well						
	04/03/98	TP/MW06-4/98	ND(<0.26)	ND(<0.24)	ND(<0.21)	ND	--	ND(<0.22)
MW07	01/20/93	NI						
	03/05/93	NI						
	05/03/93	TP/MW07-01	ND(<1)	ND(<1)	15.2	2	ND(<1)	ND(<1)
	03/17/94	TP/MW07-A	ND(<1)	ND(<1)	ND(<1)	ND	--	ND(<1)
	06/21/96	TP/MW07-6/96	ND(<0.6)	ND(<1)	ND(<1)	ND	--	ND(<1)
	03/06/97	TP/MW07-3/97	0.8	3.5	1.3	2.3 Q	--	0.6 Q
	06/13/97	Dry Well						
	10/03/97	Dry Well						
	01/05/98	NS - 0.5" of water in the well						
	04/03/98	TP/MW07-4/98	ND(<0.26)	1.2	0.48 Q	ND	--	ND(<0.22)
MW08	01/20/93	NI						
	03/05/93	NI						
	05/03/93	TP/MW08-01	ND(<1)	ND(<1)	5.39	2.73	ND(<1)	ND(<1)
	03/17/94	TP/MW08-A	ND(<1)	ND(<1)	ND(<1)	ND	--	ND(<1)
	06/21/96	TP/MW08-6/96	ND(<0.6)	ND(<1)	ND(<1)	ND	--	ND(<1)
	03/06/97	TP/MW08-3/97	ND(<0.2)	ND(<0.3)	ND(<0.4)	ND	--	ND(<0.2)
	06/13/97	TP/MW08-6/97	ND(<0.41)	ND(<0.23)	ND(<0.28)	ND	--	ND(<0.53)
	10/03/97	TP/MW08-10/97	ND(<0.16)	ND(<0.29)	ND(<0.36)	ND	--	ND(<0.2)
	01/05/98	Dry Well						
	04/03/98	TP/MW08-4/98	ND(<0.26)	ND(<0.24)	ND(<0.21)	ND	--	ND(<0.22)
NR 140 ES			5	700	343	620	40	60
NR140 PAL			0.5	140	68.6	124	8	12

Notes: all concentrations reported in ug/L unless noted

MI = Matrix interference

[D] = Analytical results of duplicate in brackets

ND() = Not detected above detection limit (detection limit)

NS = Not sampled

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-- = Not analyzed for parameter

Q = Estimated value; concentration between LOQ and LOD

ES = NR 140 Enforcement Standard

PAL = NR 140 Preventive Action Limit

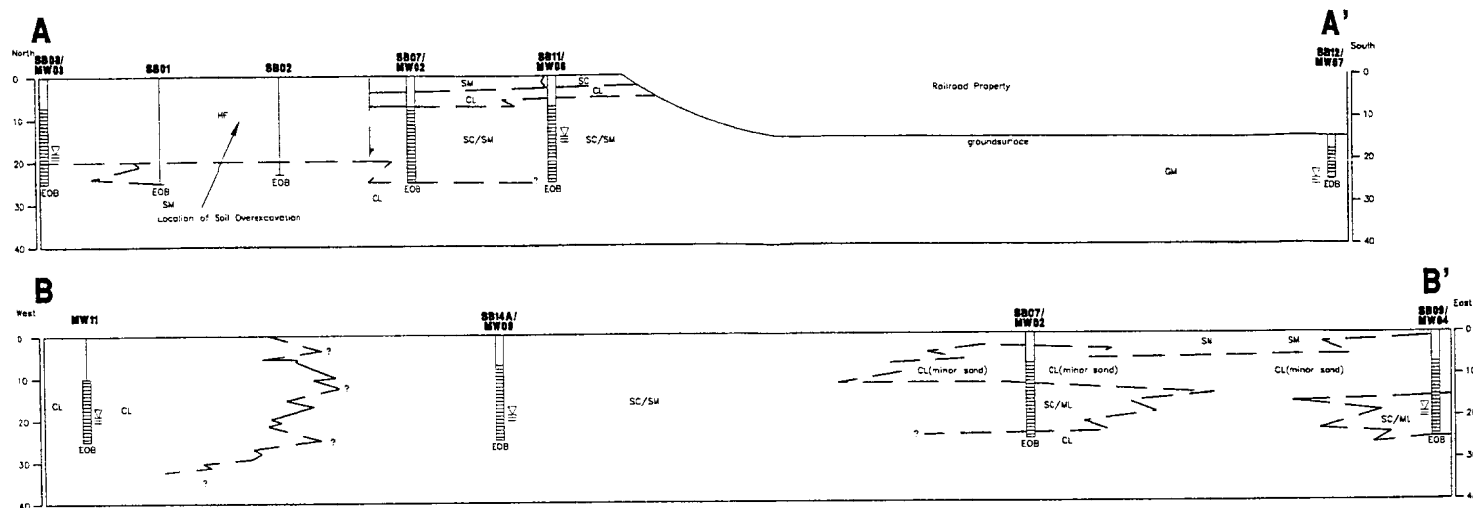
185 = Enforcement Standard Exceedence

272 = Preventive Action Limit Exceedence

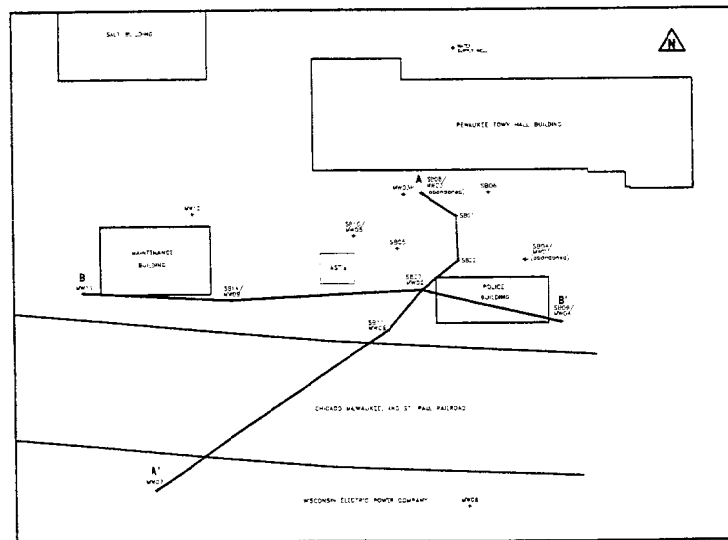
MW03R was installed approximately 10' west of MW03's previous location

Pewaukee, Wisconsin

-- = Not analyzed for parameter
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MW03R was installed approximately 10' west of MW03's previous location



SITE REFERENCE MAP



USCS CLASSIFICATION FOR SOILS

COARSE-GRAINED SOILS			FINE-GRAINED SOILS		
CLEAN GRAVELS (LITTLE OR NO FINES)	GW	WELL-SORTED GRAVELS; GRAVEL-SAND MIXTURES; LITTLE OR NO FINES	ML	INORGANIC SILTS AND VERY FINE SANDS; RICE PEGGERS; SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH POCKET PLASTICITY	
	GP	POORLY-SORTED GRAVELS; GRAVEL-SAND MIXTURES; LITTLE OR NO FINES	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY; GRAVELLY CLAYS; SANDY CLAYS; SILTY CLAYEY LEAN CLAYS	
GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GM	WELL-SORTED GRAVELS; GRAVEL-SAND-SILT MIXTURES	OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
	GC	CLAYEY GRAVELS; GRAVEL-SAND-CLAY MIXTURES	MH	INORGANIC SILTS WITH GRAVELS OR DIATOMACEOUS FINE SANDS; FINE SANDS; FINE SANDS	
CLEAN SANDS (LITTLE OR NO FINES)	SW	WELL-SORTED SANDS; SANDY SILTS; LITTLE OR NO FINES	CH	INORGANIC CLAYS OF HIGH PLASTICITY; PEAT CLAYS	
	SP	POORLY-SORTED SANDS; SANDY SILTS; LITTLE OR NO FINES	OH	ORGANIC CLAYS OF HIGH PLASTICITY; ORGANIC SILTS	
SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	SM	SILTY SANDS; SAND-SILT MIXTURES	PT	PEAT; HEAVY DRIFT; WITH HIGH ORGANIC CONTENTS	
	SC	CLAYEY SANDS; SAND-CLAY MIXTURES	FILL	NON-INDIGENOUS FILL MATERIAL	

Horizontal Scale: 1" = 30'

Vertical Scale: 1" = 30'

Figure 2-2

GEOLOGIC CROSS-SECTION
(A to A') and (B to B')

Town Hall/Municipal Garage
W240 N3065 Pewaukee Road
Pewaukee, WI

DATE	DRAFTED BY	CHECKED BY	APPROVED BY
9-26-04	DLF	ELW	JWR

Cooper

Environmental & Engineering Resources Inc.
1411 North Main Street, West Bend, Wisconsin, 53095

not to scale

FILE C:\TPW\PEW\TOP.X51